Project Data Sheet

Earth Portal System

Last updated: 14 February, 2003 Revision: 03

Project Objectives

- Develop a prototype software system for creating, performing, and distributing engaging, visually realistic, Earth Science lessons composed of annotated NASA satellite data.
- Achieve interactive performance of these lessons on inexpensive desktop computers typically deployed in elementary schools.

Sample Use Cases

- A middle school student uses the system to discover the effects of erosion by maneuvering through a 3D model of the Grand Canyon annotated with key erosion indicators, over a window of text describing the meaning of the indicators and their scientific importance.
- An elementary school student studies the variety in various land and water forms by panning over physical-feature satellite images annotated with land form identifiers and names, placed above instructional text describing the characteristics of a lake, isthmus, river, desert, etc.
- A teacher or professional curriculum developer uses the system to create and distribute the above activities, and to locate, select and incorporate appropriate imagery and data.
- A curriculum distributor uses the system to collect, catalog, announce and distribute material created by curriculum developers.

Customers

- K-12 students and educators

Deliverables for Phase 1

- The system's software components, all TRL 3:
  - Authoring tool to create lessons,
  - Viewing tool to perform lessons,
  - Server software to collect (from NASA DAAC servers), catalog, prepare and manage raw data and material for curriculum development,
  - Server software to distribute and manage developed lessons.

Milestones for Phase 1

	Complete	*What*	*Confi-dence*
ET.2-L.2-EPS.1	27 Jan '03	Resources assembled (office, hw/sw, people). Management plan	Green
ET.2-L.2-EPS.2	24 Mar '03	Prototype at TRL 1	Green
ET.2-L.2-EPS.3	7 Apr '03	Requirements spec.	Green
ET.2-L.2-EPS.4	28 Apr '03	High-level design. Project plan	Green
ET.2-L.2-EPS.5	16 Jun '03	Full design. Prototype at TRL 2	Green
ET.2-L.2-EPS.6	8 Sep '03	Implementation and Integration	Green
ET.2-L.2-EPS.7	6 Oct '03	Testing complete. Prototype at TRL 3	Green
ET.2-L.2-EPS.8	1 Oct '03	Final report	Green

People

- Project Manager: Jeff Seaton
  NASA Langley Research Center
  757.864.687 j.m.seaton@larc.nasa.gov
- Endorsee: Jeff Seaton
- Alternate contact: Peter Copin
  Carnegie Mellon University
  412.268.1565 coppin@cmu.edu

Partnerships

- Carnegie Mellon University, EventScope project
- NASA Goddard Space Flight Center, Earth data from DAAC servers
- Platform Digital, LLC, software development

Technologies

- Earth Science Visualization
- High-performance software on low-cost computers.

Quality Assurance

- Entire software system to be tested locally in lab and externally using NASA data servers.